

slip Wed 12/12

Dart Aerospace Ltd.

50

Date: Monday, 12/10/2007 12:05:20 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
Job Number : 36239
Estimate Number : 11999
P.O. Number :
This Issue : 12/10/2007 S.O. No. :
Prsht Rev. : NC
First Issue : 1 / Type : LARGE FAB ASSY
Previous Run : 35288
Written By :
Checked & Approved By : 07.12.10
Comment : Est Rev:E 02.10.21 Re-format; Incorporated D2351-041 IPP K J/RF

Drawing Name : SHORT STEP ASSEMBLY
Part Number : ~~D350591122~~ D2351-042
Drawing Number : D2351 UNDER REVIEW 07.12.10
Project Number : N/A
Drawing Revision : E
Material :
Due Date : 12/12/2007 Qty: 1 Um: Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-122 CHG003

2.0 D2244116 Step Extrusion



Comment: Qty.: 0.5000 Each(s)/Unit Total : 0.5000 Each(s)
Pick:

Qty Part Number Description Batch
0.5 D2244-116 Extrusion 833733

a.m 07.12.11

3.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G
54.94"

a.m 07.12.11

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets. a.m 07.12.11

TURN OVER

4.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5.0 BENDING BENDING MACHINE



Comment: BENDING MACHINE
Bend as per dwg

a 7-12-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ Date: 07/12/13
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07.12.10	3.0	STEP IS TOO LONG WHEN INSTALLED ON AIRCRAFT	<u>PM</u> per QSI 042 07.12.10	SHORTEN LENGTH BY 0.395" @ 99° CUT LENGTH IS NOW 54.94" (SEE ATTACHED PICTURES)	<u>PM</u> 07.12.12	<u>PM</u> per QSI 042 07.12.10	<u>PM</u> 07.12.12	

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36239

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SE 07-12-12

7.0

D28502

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch
1 D2850-2 End Bracket *B29849*

SE 07-12-12

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033

A/R Aluminum Rod *M105844*

3-Do not Grind Flush

SE 07-12-12
SE 07-12-12
SE 07-12-12

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

SE 07/12/12 (1)

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SE 12-12 (1)

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

JB 7-12-12

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

SE 12-12 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36239

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description:

13.0

D2582

Hi-Skid Step Leg Ass'y



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2582

Step Leg Assy

B33253

12.07.12.12

14.0

MS20600AD4W3

Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total: 16.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W3 Rivet

M104715

12.07.12.12

15.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

12.07.12.12

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

12.12.12

17.0

D267334

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2673-34 End Plate

B32404

12.07.12.12

18.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R

Aluminum Rod M105058

12.07.12.12

2-Grind end plate flush.

12.07.12.12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36239

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

07/12/12 (1)

20.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

12-12-12

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

07-12-12

22.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M-1 07/12/12

23.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch:

M106332

M-1 07/12/12

24.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

12-12-13

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

N/A step weldment only N/C

26.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2230-1 Mounting Lug

L

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36239

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

D22303

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2230-3 Mounting Lug _____

28.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total : 0.6000 f(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2856-400 7.20" Abrasion Strip _____

29.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 AN3-37A Bolt _____

30.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

3 AN4-13a Bolt _____

31.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

4 AN960JD10 Washer _____

32.0

AN960JD416

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

6 AN960JD416 Washer _____

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36239

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

33.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 MS21042L3 Nut (or -3) _____

34.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

3 MS21042L4 Nut (or -4) _____

35.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-122

Location: _____

PPP Rev: _____

37.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



W 07.12.13

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

*cut per drawing

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WORK ORDER
NO. 36239

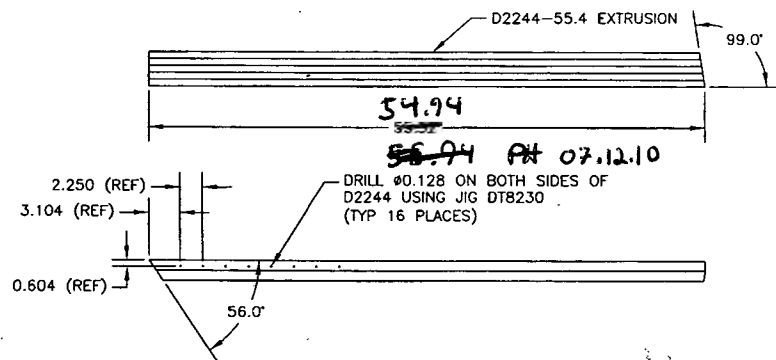
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05.11.28 H**UNDER REVIEW**07.11.24 H
PER LIC# 263

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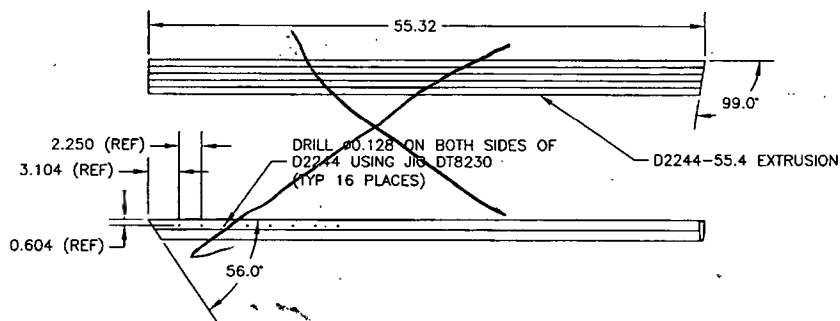
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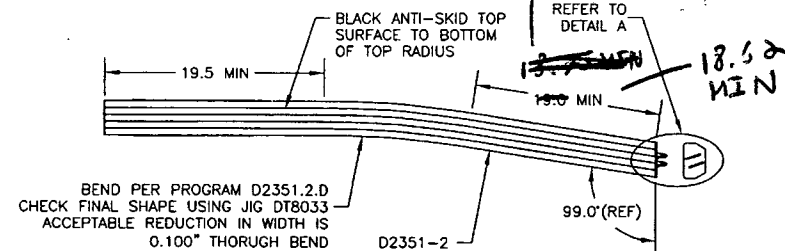
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



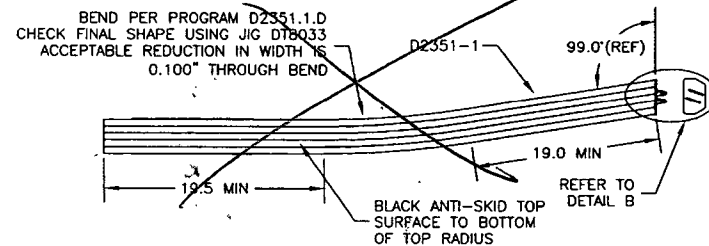
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



RIVET D2582 TO D2244 USING
MS20600AD4W3 RIVET (TYP 16 PLACES)

0.250 (REF)

D2673-34
END PLATE (1)

D2582 STEP LEG ASSEMBLY (1)

D2850-1 END
BRACKET (1)

D2850-2 END
BRACKET (1)

DETAIL A
SCALE: 1:4

DETAIL B
SCALE: 1:4

GENERAL NOTES

- 1) WELD PER DART QSI 004
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR
D2850-2 IN PLACE. DO NOT GRIND FLUSH.

RELEASED
05.11.14

UNDER REVIEW

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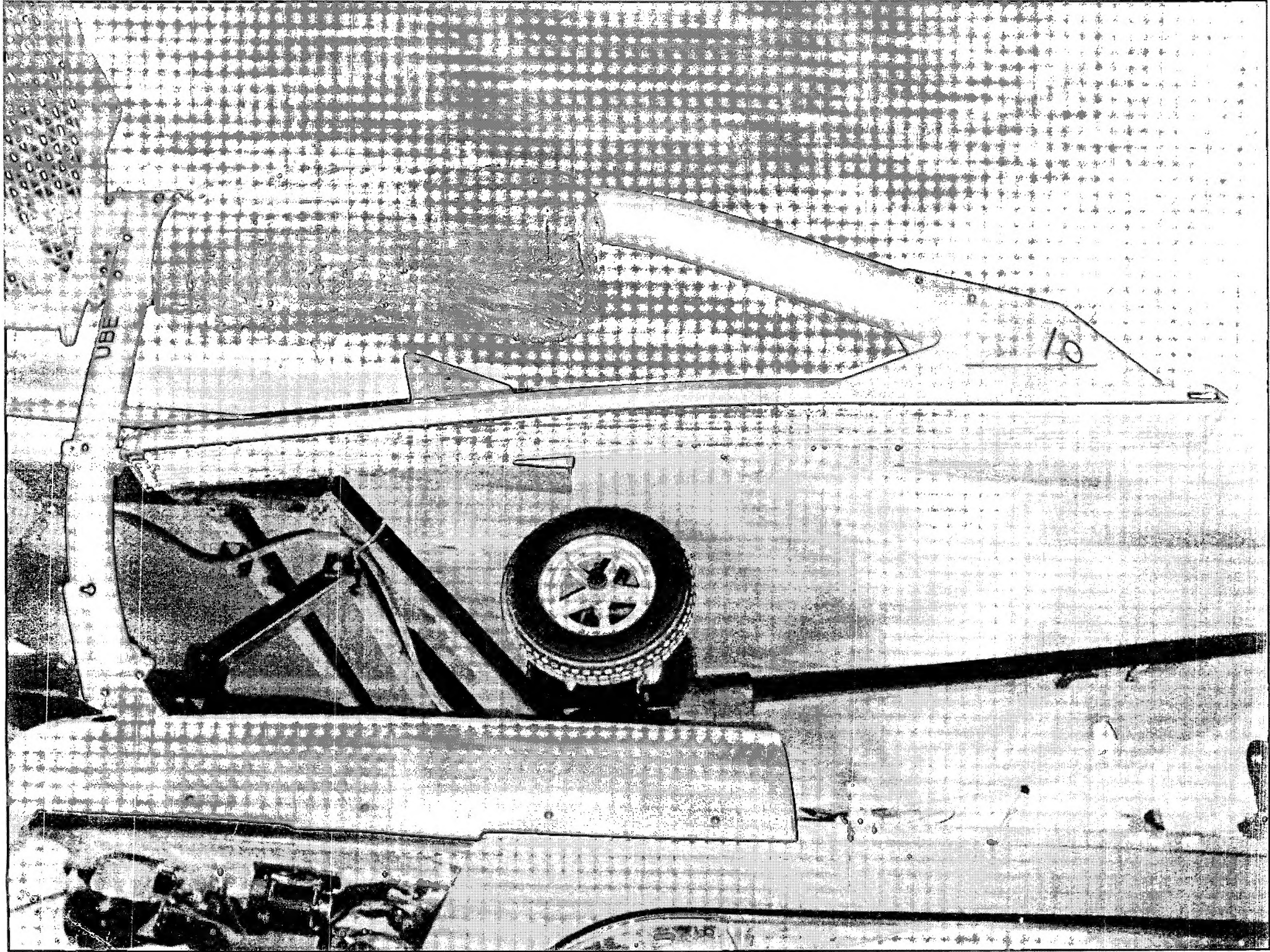
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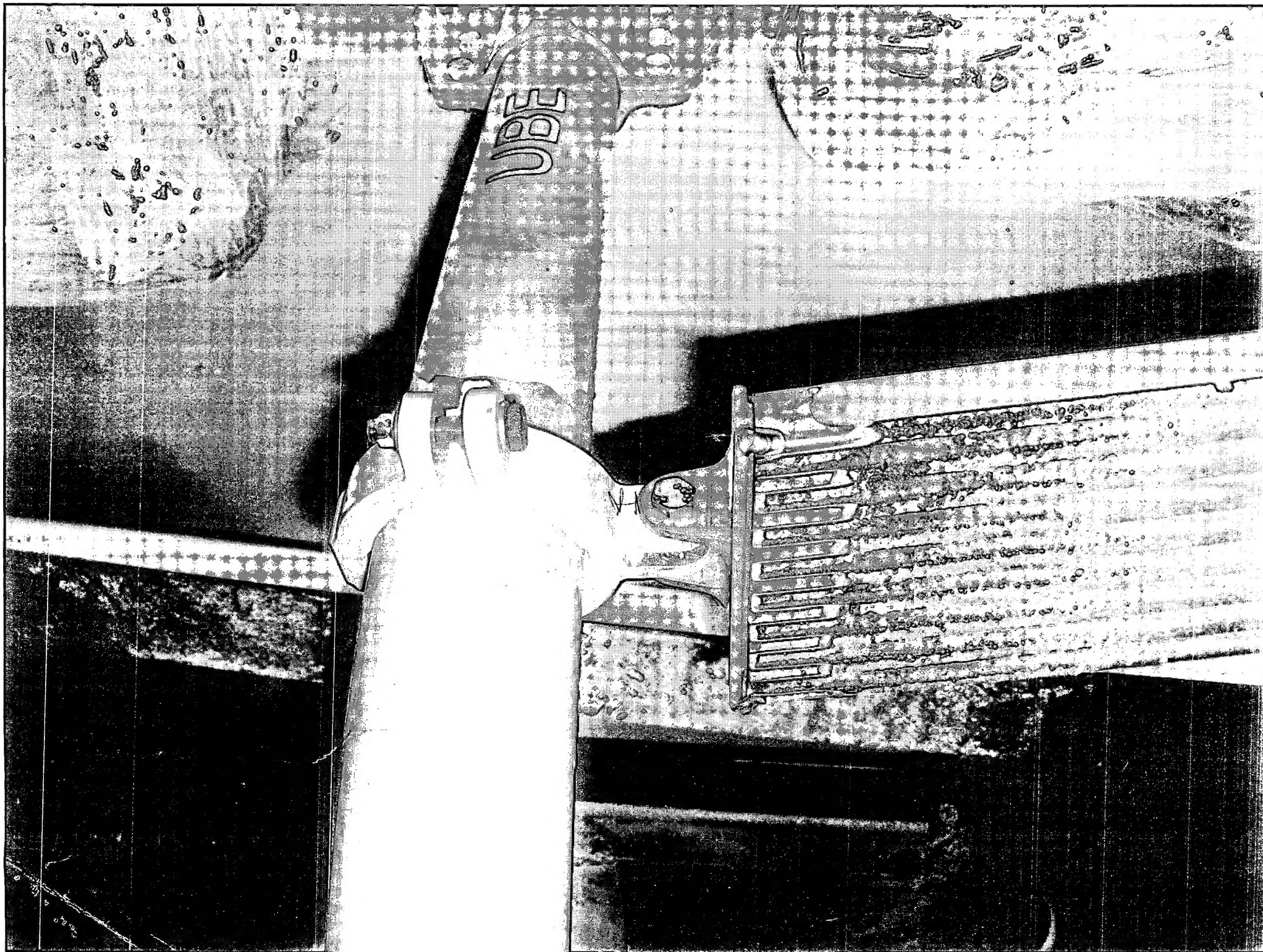
DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12	

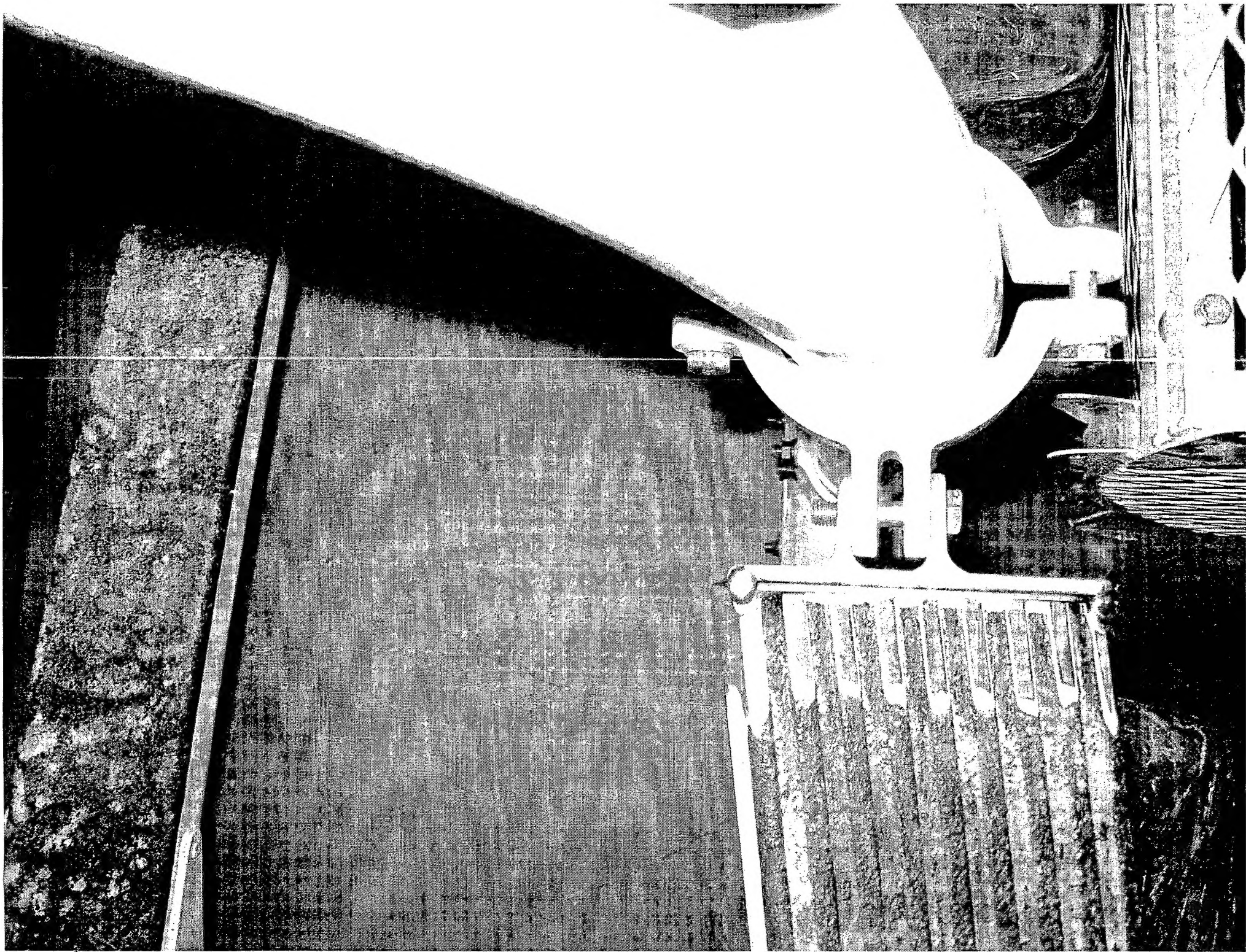
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WORK ORDER
360239

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Job Number	: 36239		
Estimate Number	: 11999		
P.O. Number	:	Part Number	: D350591122
This Issue	: 12/10/2007 S.O. No. :	Drawing Number	: D2351 UNDER REVIEW
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / /	Drawing Revision	: E
Previous Run	: 35288	Material	:
Written By	:	Due Date	: 12/12/2007
Checked & Approved By	: <u>07.12.10</u>	Qty:	1 Um: Each
Comment	: Est Rev.E 02.10.21 Re-format; Incorporated D2351-041 IPP K J/RF		
Additional Product			
Job Number: 			
Seq. #:	Machine Or Operation:	Description :	
1.0	DC	DOCUMENT CONTROL	
			
Comment: DOCUMENT CONTROL Photocopy bluefile and type labels as per PPP D350-591-122 CHG003			
2.0	D2244116	Step Extrusion	
			
Comment: Qty.: 0.5000 Each(s)/Unit Total : 0.5000 Each(s) Pick: Qty Part Number Description Batch 0.5 D2244-116 Extrusion			
3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1	
			
Comment: LARGE FABRICATION RESOURCE 1 1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G 2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.			
4.0	QC5	INSPECT WORK TO CURRENT STEP	
			
Comment: INSPECT WORK TO CURRENT STEP			
5.0	BENDING	BENDING MACHINE	
			
Comment: BENDING MACHINE Bend as per dwg			

REFERENCE ONLY

07.12.10